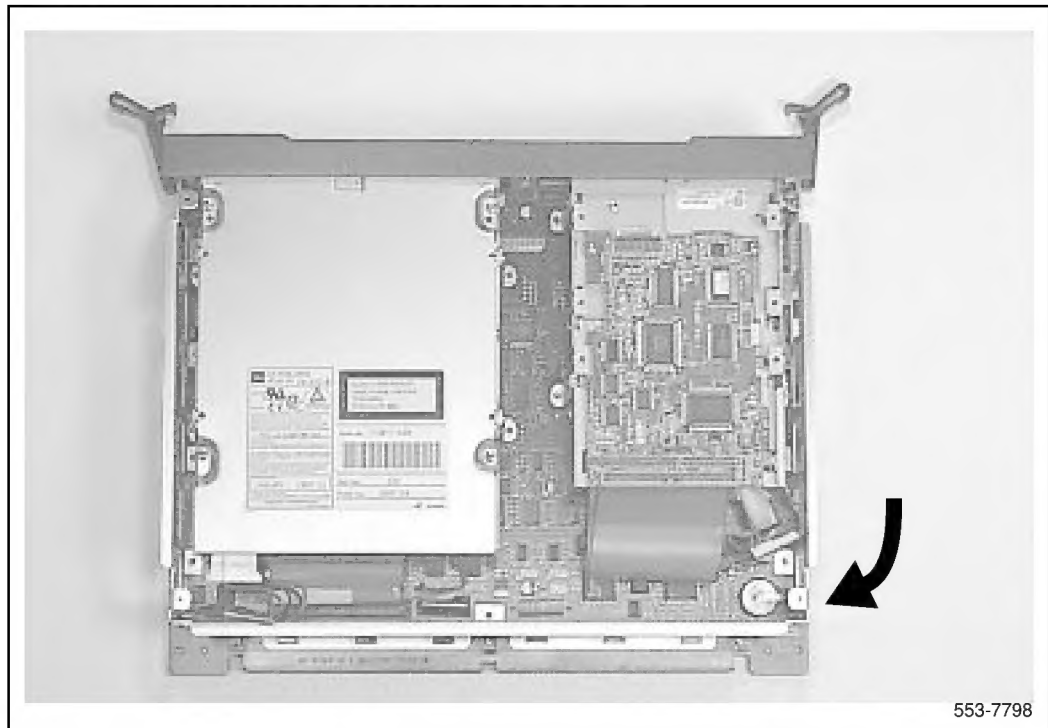

Powering up the system and initial loading

This section describes how to power up and initialize an option 51C, 61C, or 81C and install new software.

Preparing for power-up

- 1 Locate the Keycode Installation diskette that corresponds with the Call Processor (CP) card installed in your system (NT9D19 or NT5D10).
- 2 Locate the round 1/2" diameter Security Device for the NT5D61 Input Output Disk Unit with CD-ROM (IODU/C) card.
- 1 Make sure that the 8-digit code on the Keycode Installation diskette matches the 8-digit code on the Security Device.
- 2 Install the Security Device on the IODU/C card:
 - With the Nortel side facing upward, slide the Security Device between the black round security device holder on the top right hand corner of the IODU/C card and the holder clip (see [Figure 126](#)). Do not bend the clip more than necessary when inserting the Security Device.
 - Ensure that the Security Device is securely in place.
 - In a dual CPU system, install a Security Device for both CPUs.

Figure 126
Security device location on the NT5D61 IODU/C card



- 3 Install the IODU/C card(s) into slots 17, 18, and 19.
Note: For dual-CPU systems with NT5D61AA and AB vintages, NT5D61AA with CD-ROM drive must be installed in Core/Net 1.
- 4 Lock the locking devices by pushing them gently towards the faceplate. Set the ENB/DIS switch to ENB.
- 5 Verify that all cards are locked into their assigned slots.
- 6 Verify that all cable connectors are secured.
- 7 Set all circuit breakers to OFF.
- 8 Set all faceplate switches to ENB.
- 9 Set CPUs for normal operation.
 - **For option 51C**, set the NORM/MAINT switch on the CP card to MAINT.
 - **For options 61C and 81C**, set the NORM/MAINT switch for both CP cards to NORM.

Connecting power for AC-powered systems

- 1 Test the commercial power source for proper voltage (see *Meridian 1 installation planning* (553-3001-120) for voltage requirements).
- 2 Set the main circuit breaker in the rear of each pedestal to OFF.
- 3 Set the circuit breakers on each MPDU, or the switch on each module power supply, to OFF in each module.
- 4 Set the circuit breaker on the blower unit in the front of each pedestal to OFF.
- 5 Connect the AC power cord for each pedestal to its associated commercial power outlet.

Note: If a problem is found in any of the following steps, resolve that problem before continuing.

- 6 If not already done, in the power panel set the circuit breaker that provides service for Column 0 to ON.
- 7 Set the main circuit breaker in Column 0 to ON.
- 8 Set the circuit breaker on the blower unit in Column 0 to ON. You should hear the blower running.

Note: On initial power-up, the blower may rotate slower than expected. As the sensor detects heat, the blower will rotate faster.

- 9 Set the circuit breaker on the MPDU, or the switch on the module power supply, to ON in Module 0. After a few seconds, the green LED on the power supply should light.

Repeat this step for each module in the column, one module at a time. (If the module is equipped with a ringing generator, set the breakers or switches for both the power supply and the ringing generator to ON.)

Note: It may take up to 90 seconds for the green LED to light on a ringing generator. This is normal operation.

- 10 Repeat steps 5 through 9 for each column.

- 11 Once the green LED is lit on all module power supplies and ringing generators, set the main circuit breaker for each column to OFF *except on the CPU columns*, wait at least 30 seconds, then set the breaker back to ON (leave CPU columns off).
 - The breaker should not trip. The blower unit in each column should be running and the green LED on all module power supplies and ringing generators should be lit. All red column LEDs should also be lit.
 - Set the main circuit breakers for the CPU columns to ON (in dual Core systems, set the breakers simultaneously).

At this point, all blower units should be running and the green LED on all module power supplies and ringing generators should be lit. The red column LEDs will remain lit until the system reloads

Connecting power for DC-powered systems

- 1 Set the main AC circuit breaker to each rectifier to OFF.
- 2 For each rectifier, test the commercial power source for proper voltage (see *Meridian 1 installation planning* (553-3001-120) for voltage requirements).
- 3 Remove all distribution fuses, or set all distribution breakers to OFF, on the DC power source for each column.
- 4 Set all circuit breakers in the rear of each pedestal to OFF.
- 5 Set the switch on each module power supply and ringing generator to OFF.
- 6 Set the switch on the blower unit in the front of each pedestal to OFF.

Note 1: If a problem is found in any of the following steps, resolve that problem before continuing.

Note 2: If reserve batteries are equipped, the volt meter on the DC power source should show approximately -48 V.

- 7 If not already done, connect each rectifier to its associated AC outlet and set the breakers in the power panel to ON.
- 8 Turn on the rectifiers, one at a time, waiting about 10 seconds between one rectifier and the next. Voltage at the distribution meter should go to about 54 V (equalize voltage) or 52 V (if equalize voltage has not been set up).

Note: Perform steps 9 through 12 for each column. Power on the Core columns last.

- 9 Replace the distribution fuses, or set the distribution breakers to ON, on the DC power source for the column.
- 10 Set the circuit breaker for the blower unit (the far left breaker in the rear of the pedestal) to ON in the column.
- 11 Set the switch on the blower unit (in the front of the pedestal) in the column to ON. You should hear the blower running.

Note: On initial power-up, the blower may rotate slower than expected. As the sensor detects heat, the blower will rotate faster.

- 12 Set the switch on the module power supply to ON in the column. After a few seconds, the green LED on the power supply should light.

Repeat this step for each module in the column, one module at a time. (If the module is equipped with a ringing generator, set the switch on both the power supply and the ringing generator to ON.)

Note: It may take up to 90 seconds for the green LED to light on a ringing generator. This is normal operation.

At this point, all blower units should be running and the green LEDs on all module power supplies and ringing generators should be lit. The red column LEDs will remain lit until the system reloads.

If you are installing a new system, go to the section [“Installing new system software” on page 321](#). However, if you are currently upgrading your system, do not install new software, but return to your upgrade procedure in *Upgrade system installation to release 23* (553-3001-258).

Installing new system software

Options 61C and 81C

Use the following procedure to install new software on options 61C and 81C. To install new software on an option 51C, refer to [page 327](#).

Note: A Security Device must be installed in both IODU/C cards before performing this procedure. For instructions on installing a Security Device, refer to [page 315](#).

Install software on Core/Net 1

- 1 Connect a terminal to the CPSI port in Core 1 to J25 of the I/O panel at the back of the core. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.
 - 7 data bits
 - 1 stop bit
 - Space parity
 - Full duplex
 - XON protocol (the digital VT420 terminal uses XOFF at 64 kb/s)
- 2 Verify that both CP cards in Core 1 and Core 0 are set to MAINT.
- 3 Verify that the ENB/DIS switch on the CNI cards in Core 0 is set to DIS.
- 4 Verify that the ENB/DIS switch on the CNI cards in Core 1 is set to ENB.
- 1 Place the Installation diskette that corresponds with your CP type into the IODU/C in Core 1.
- 2 Install the CD-ROM into the CD drive:
 - press the button on the CD-ROM drive to open the CD-ROM disk holder
 - place the CD-ROM disk into the holder with the disk label showing
 - press the button again to close the CD-ROM disk holder (don't push the holder in by hand)

- 3 Press the MAN RST button on the CP card in Core 1.

At this point the terminal connected to the CPSI port becomes active. Watch for system reload (SYS) messages.

A sysload will begin (cold start) and the system will automatically load the Software Install program.

The Install Main Menu is displayed after the system-check passes. The next menu prompts you to continue with the Install or go to the Tools Menu.

- 4 Select option <u>.

- 5 Insert the Keycode diskette that corresponds with the CP card currently installed in the system (NT9D19 68040 or NT5D10 68060) into the disk drive.

- 6 Select option <a>. The keycode is validated against the Security Device and, when it passes validation, the Main Menu of Install Utilities is displayed.

- 7 Select option <a> to install the software, CP-BOOTROM and IOP-ROM.

- 8 Select option <a> to continue.

A summary chart will be displayed after checking the system configuration is done. This chart summarizes the options you selected. Install tool will install in order of the chart.

- 9 Select <y> to continue the CD-ROM installation

- 10 Select <a> to continue with system upgrade.

- 11 Select <a> to confirm and continue the software upgrade.

- 12 Select option <a> to continue installation. The files on the CD-ROM will be programmed onto Flash EEPROM.

- 13** You will be prompted to continue the upgrade and installation of the Meridian 1 CP-BOOTROM and IOP-ROM. Use the following in sequence to complete the installation:

<a>	to continue install of CP-BOOTROM
<y>	to continue install of IOP-ROM
<a>	to continue

A Status Summary screen will be displayed. Press **<CR>** to continue and return to the Main Menu screen.

- 14** From the Main Menu, select **<q>** to quit and reload the system.
- 15** Select **<y>** to confirm quit.
- 16** **Remove the diskette** from the floppy drive.
- 17** Select **<a>** to reboot the system.

The system will reboot. Wait for the “INI” and “DONE” messages to display before continuing. It will take at least 70 seconds between the “DONE” and “INI” messages.

- 18** Log into the system and check the system status:

LD 22	to load the first overlay
REQ ISS	to display your software generic
****	to exit LD 22

Install software on Core/Net 0

- 1** Connect a terminal to the J25 port on the I/O panel for Core 0. Use the following settings:
- 9600 baud
 - 7 data bits
 - 1 stop bit
 - Space parity
 - Full duplex
 - XON protocol (the digital VT420 terminal uses XOFF at 64 kb/s)
- 2** Verify that the ENB/DIS switch on the CNI card in Core 1 is set to ENB.
- 3** Verify that the ENB/DIS switch on the CNI card in Core 0 to set to DIS.

- 4** Verify that Core 0 is in MAINT mode.
 - 5** Insert the Install diskette that corresponds to your CP type into the IODU/C on Core 0 (NT9D19 68040 or NT5D10 68060).
 - 6** Press the MAN RST button on the CP card.
 - 7** At the Main Menu select **<u>** to go to the Install Menu.
 - 8** Insert the Keycode diskette when prompted and select **<a>** to continue with the keycode validation.
- Once the keycode is validated against the Security Device, the Install menu is displayed.
- 9** At the Install menu, select **<o>** to copy the software from Core 1 to Core 0.
 - 10** Select **<a>** to confirm that the software release to be copied from Core 1 to Core 0 is correct.
 - 11** Select **<a>** to confirm the software release to be copied.
 - 12** When the software is installed successfully, press **<CR>** to install CP-software from the hard disk to Flash EEPROM, and install CP-BOOT ROM. Follow the screen directions until the Main Menu returns.
 - 13** At the Main Menu, select **<f>** to install IOP-ROM.
 - 14** Select **<a>** to continue with the IOP-ROM upgrade.
 - 15** Select **<q>** to quit and reload the system.
 - 16** Select **<y>** to confirm quit.
 - 17** **Remove the diskette** from the floppy drive.

- 18** Select <a> to reboot the system.

The system will reboot. Wait for the “INI” and “DONE” messages to display before continuing. It will take at least 70 seconds between the “DONE” and “INI” messages.

When the sysload is complete, the system automatically invokes the initialization program. The red column LEDs should go off. When the initialization is complete, the system automatically runs the programs in the midnight routine. You can allow the midnight routines to complete or you can log onto the system to complete the software installation.

Note: Make sure that an SDI TTY is connected in the network shelf.

- 19** Switch the CPSI cable from Core 0 to Core 1.

- 20** Set the MAINT/NORM switch on Core 0 to NORM.

Core 1 is now the active Core. The flashing box in the lower left corner of the LCD indicates the active Core.

- 21** In Core 0, enable the NT6D65 CNI cards by setting the ENB/DIS faceplate switches to ENB.

- 22** Set the MAINT/NORM switch on the CP card in Core 1 to NORM.

An HWI534 message on Core 1 CPSI or SDI TTY indicates the memory synchronization is taking place. Wait until the HWI533 message indicates that memory synchronization is complete before continuing (usually within ten minutes).

Note: On the CNI card(s) in the inactive Core, the LEDs remain lit. This is normal operation. In addition, if the network loop for a CNI port is not configured and enabled, the LED for that port may stay lit.

Test Core/Net 1 and 0

1 Test Core functions:

LD 135	to load the overlay
TEST CPU	test the inactive CP card and CP to CP cable
TEST IPB	test the backplane protocol on the inactive side
TEST CNI c s	test each configured CNI on the inactive side (specify Core and slot)

If all the tests pass, switch Cores and test the side that is now inactive:

SCPU	switch to Core 1
TEST CPU	test the inactive CP card and CP to CP cable
TEST IPB	test the backplane protocol on the inactive side
TEST CNI c s	test each configured CNI on the inactive side (specify Core and slot)

2 Synchronize the disk drives (synchronization may take up to 30 minutes):

LD 137	to load the overlay
STAT CMDU	get the status of both IODU/Cs (be sure the same IODU/C and CPU are active)
SYNC	synchronize the disk drives
****	exit LD 137

3 Test the IOP to IOP SCSI connection, then enable and test the CMDUs:

LD 137	to load the overlay
TEST SCSI	check the IOP to IOP connection and access to the CMDUs
ENL CMDU	enable the IODU/Cs
TEST CMDU	test the hard and floppy disk drives (note: a floppy disk must be installed)
****	exit LD 137

4 Insert the database (B1) diskette into the IODU/C card.

5 Load the Equipment Data Dump Program (LD 43). At the prompt, enter
LD 43 to load the program

- 6 When “EDD000” appears on the terminal, enter
EDD to begin the data dump
- 7 When “DATADUMP COMPLETE” and “DATABASE BACKUP COMPLETE” appear on the terminal, enter
**** to exit the program

CAUTION

If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

The option 61C or 81C is now operational.

Installing new system software on option 51C

Use the following procedure for to install new software on option 51C.

- 1 Connect a terminal to the CPSI port in Core 0 to J25 of the I/O panel at the back of the core. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.
 - 7 data bits
 - 1 stop bit
 - Space parity
 - Full duplex
 - XON protocol
- 2 Insert the Install diskette that corresponds to your CP-type into the IODU/C.

- 3 Install the CD-ROM disk into the CD-ROM drive. To install the CD-ROM:
 - press the button on the CD-ROM drive to open the CD-ROM disk holder
 - place the CD-ROM disk into the holder with the disk label showing
 - press the button again to close the CD-ROM disk holder (don't push the holder in by hand)
- 4 Press the MAN RST button on the CP card.
- 5 At the Main menu select <u> to go to the Install menu.
- 6 Insert the Keycode diskette when prompted and select <a> to continue with the keycode validation.
- 7 Once the keycode is validated against the Security Device, the Install menu is displayed.
- 8 Select option <a> to install the software, CP-BOOTROM and IOP-ROM.
- 9 Select option <a> to continue.

A summary chart will be displayed after checking the system configuration is done. This chart summarizes the options you selected. Install tool will install in order of the chart.
- 10 Select <y> to continue the CD-ROM installation
- 11 Select <a> to continue with system upgrade.
- 12 Select <a> to confirm and continue the software upgrade.
- 13 Select option <a> to continue installation. The files on the CD-ROM will be programmed onto Flash EEPROM.

- 14** You will be prompted to continue the upgrade and installation of the Meridian 1 CP-BOOTROM and IOP-ROM. Use the following in sequence to complete the installation:

<a>	to continue install of CP-BOOTROM
<y>	to continue install of IOP-ROM
<a>	to continue

A Status Summary screen will be displayed. Press **<CR>** to continue and return to the Main Menu screen.

- 15** From the Main Menu, select **<q>** to quit and reload the system.
- 16** Select **<y>** to confirm quit.
- 17** **Remove the diskette** from the floppy drive.
- 18** Select **<a>** to reboot the system.

The system will automatically perform a sysload and system initialization during which several messages will appear on the system terminal. Wait until initialization has finished (INI messages are no longer displayed on the system terminal) before continuing.

- 19** Verify that the “DONE” message appears on the system terminal.

Note: The SYSTEM INI message may take 70 seconds or more to appear.

Test the system

- 1** Log into the system.
- 2** Verify CPU and CNI functionality:
- | | |
|-----------------|-----------------------------|
| LD 135 | to load the program |
| STAT CPU | to check the CPU status |
| STAT CNI | to verify CNI functionality |
| **** | to exit the program |

Make a backup of the customer database on 2MB diskettes:

- 3** Load the Equipment Data Dump Program (LD 43). At the prompt, enter
- | | |
|--------------|---------------------|
| LD 43 | to load the program |
|--------------|---------------------|

- 4 When “EDD000” appears on the terminal, enter
EDD to begin the data dump
- 5 When “DATADUMP COMPLETE” and “DATABASE BACKUP COMPLETE” appear on the terminal, enter
******** to exit the program

CAUTION

If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

Your system option 51C is now operational.